

**Pharmacologic properties:**

Nitroglycerin is an organic nitrate which causes systemic vasodilation by entering vascular smooth muscle, converting to nitric oxide, and activating cGMP. This dose-dependent dilation acts primarily on the venous system, although it also produces direct coronary artery vasodilation as well. The overall result is a decrease in venous return which decreases the workload on the heart and thus, decreases myocardial oxygen demand.

**Indications:**

- Chest pain associated with angina pectoris or suspected acute MI.
- Acute pulmonary edema with hypertension.

**Contraindications:**

- Hypertension associated with acute stroke or severe brain injury
- Systolic BP < 90 mmHg
- Phosphodiesterase-5 inhibitor use within 24 hours (Viagra® or Levitra®) or 72 hours (Cialis®)

**Precautions:**

- Use with caution in acute inferior wall MI or right ventricular infarct (ST elevation in V4R) - be prepared to administer up to 1000 mL NS bolus if hypotension develops
- Patients on chronic nitrate therapy may require larger doses of nitroglycerine during acute anginal episodes
- Alcohol will accentuate vasodilating and hypotensive effects

**Adverse Reactions:**

- Headache, dizziness, flushing, nausea and vomiting. Hypotension, reflex tachycardia. Have the patient sit or lay down during administration to avoid postural hypotension.

**Dosage and administration:****Adult**

- 1 spray onto or under the tongue, 0.4 mg. This may be repeated every 3-5 minutes if the systolic blood pressure remains above 90 mmHg or until complete relief of symptoms has been achieved.

**Pediatric**

- Not indicated